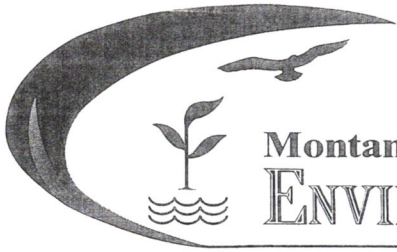


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Montana Department of
ENVIRONMENTAL QUALITY

RECEIVED

Steve Bullock Governor
Tracy Stone-Manning, Director

P. O. Box 200901 • Helena, MT 59620-0901 • (406) 444-2544 • Website: www.deq.mt.gov

June 12, 2014

**LEGISLATIVE ENVIRONMENTAL
POLICY OFFICE**

CSKT, PO Box 278, Pablo, MT 59855-0278
Victor & Paula Stobie, Po Box 691, Hot Springs, MT 59845-0691
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Billy Christensen, PO Box 707, Hot Springs, MT 59845-0707
Lake County Environmental Health Department, 106 4th Avenue East Polson, MT 59860
Lake County Commissioners, Lake County Courthouse 106 4th Ave East, Polson, MT 59860
The Confederated Salish and Kootenai Tribes of the Flathead Nation, Natural Resources Department,
Division of Environmental Protection, 301 Main Street, Polson, MT 59860
Director, Department of Fish, Wildlife & Parks, 1420 E 6th Avenue, Helena, MT 59620
Lisa Peterson, DEQ, Director's Office, Helena, MT 59620
Jeff Ryan, DEQ, Water Protection Bureau, Helena, MT 59620
Environmental Quality Council, Capitol Complex, Helena, MT 59620
Documents Section, State Library, Capitol Complex, Helena, MT 59620

Ladies and Gentlemen:

To comply with the Administrative Rules of Montana, 17.4.607(2) and 17.4.609(2), the Department of Environmental Quality (DEQ), prepared the enclosed Environmental Assessment (EA). The attached EA is for the land application of septage, gray water, and grease trap waste in Lake County, Montana.

The purpose of the EA is to inform the public of the proposed action and to seek public participation in the decision-making process. Persons wishing to comment have until the close of business on July 12, 2014 to submit written comments concerning the proposal. DEQ will not make a final decision until after the comment period has ended.

If you wish to comment on this proposed action during the comment period, please do so in writing by mailing your comments to the Waste and Underground Tank Management Bureau, Solid Waste Program, P.O. Box 200901, Helena, MT 59620-0901, or by E-mail to mailbox wutbcomments@mt.gov.

Sincerely,

John Collins
Environmental Science Specialist
Waste & Underground Tank Management Bureau

Enclosure: EA- M & MT Enterprises (dba) M-T Septic Service

MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

Permitting and Compliance Division
Waste and Underground Tank Management Bureau
Solid Waste Section
PO Box 200901
Helena, MT 59620-0901

ENVIRONMENTAL ASSESSMENT (EA)

SECTION 1.0 – PROJECT DESCRIPTION:

Manford Temporo of M & MT Enterprises (dba) M-T Septic Service (applicant) has submitted an application for the approval of a site for the land application of septage, gray water, and grease trap waste on approximately 160 acres of Marian Oberlander property in Lake County. At the present time, the property is being used for stock grazing. Land application will occur at this site on an as-needed basis.

Purpose of the Environmental Assessment:

In accordance with 75-1-102, Montana Code Annotated (MCA), the Montana Environmental Policy Act (MEPA) is procedural and requires the “adequate review of state actions in order to ensure that environmental attributes are fully considered by the legislature in enacting laws to fulfill constitutional obligations; and the public is informed of the anticipated impacts in Montana of potential state actions.” According to MEPA, environmental assessments are the procedural documents that communicate the process agencies follow in their decision-making. An EA does not result in a certain decision, but rather serves to identify the potential effect of a state action within the confines of existing laws and rules governing such proposed activities so that agencies make balanced decisions. The MEPA process does not provide regulatory authority beyond the authority explicitly provided in existing statute.

The Septage Disposal and Licensure laws and rules establish the minimum requirements for the land application of septage wastes. The EA is the mechanism that the Department of Environmental Quality (DEQ) uses to: 1) Determine whether a proposed land application site meets the minimum requirements for compliance with the current laws and rules and is therefore licensable as proposed; 2) Assist the public in understanding the licensing laws of the Septage Disposal and Licensure program; 3) Identify and discuss the potential environmental effects of the proposed land application activity if it is approved and becomes operational; 4) Discuss actions taken by the applicant and the enforceable measures and conditions of the license designed to mitigate the effects identified by DEQ during the review of the application; and 5) Seek public input to ensure DEQ has identified all the substantive environmental effects associated with the proposed land application of septage, gray water, and grease trap waste on the above-noted property.

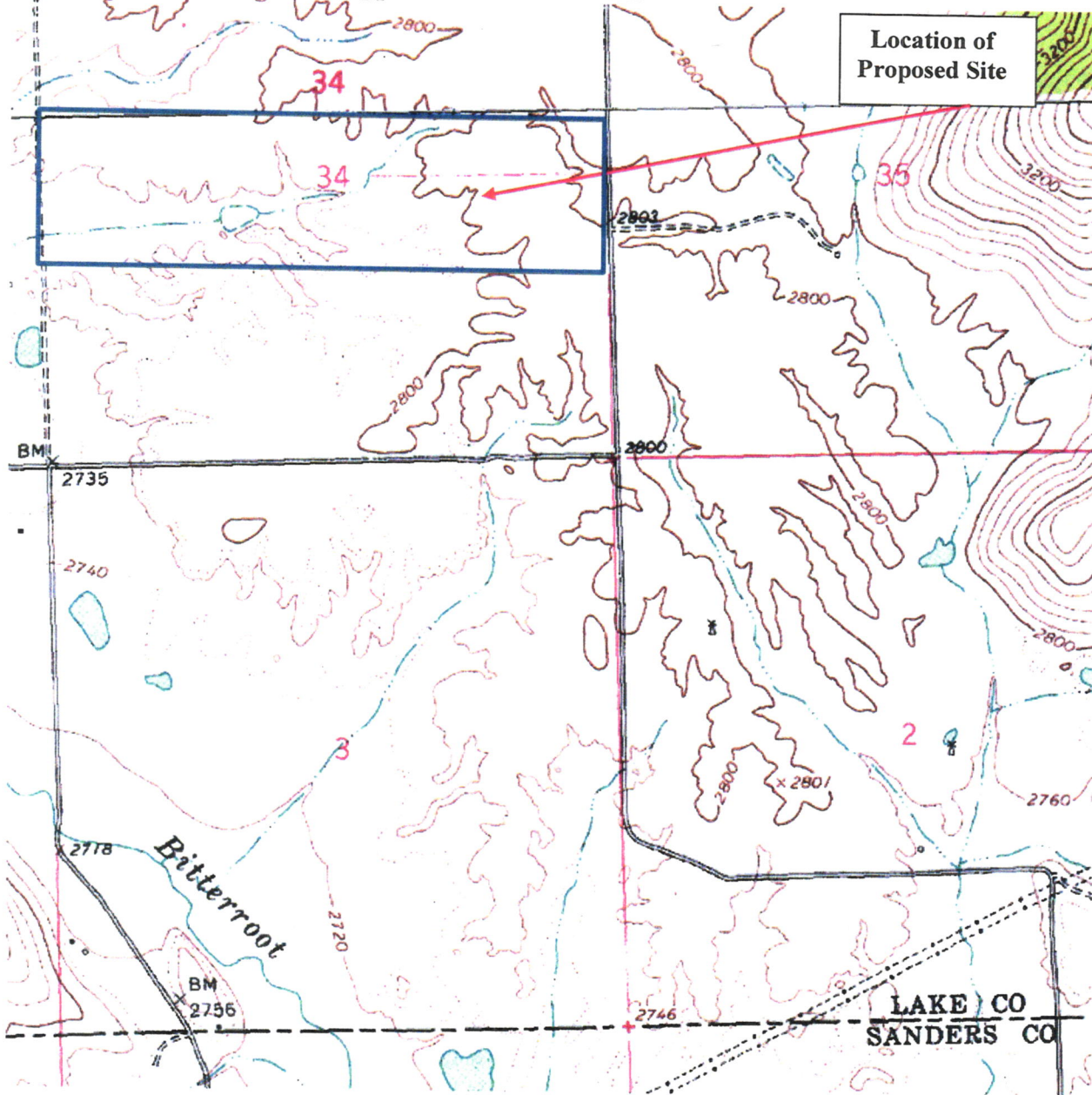
Benefits and Purpose of Project:

The land application of domestic septage is an economical and environmentally sound practice. A properly managed land application program provides benefits to agricultural land by the addition of organic matter and nutrients to the soil without adversely affecting public health. The land application of septage, gray water, and grease trap waste at this site will add nutrients, moisture, and improve the soil tilth for the continued production of the pasture grass for stock grazing.

Site Location and Setback Requirements:

The proposed land application site is located on private property in the north half of the south half of Section 34, Township 22 North, Range 23 West, Montana Principal Meridian, Lake County, Montana, just off Christensen road (Figure 1.1). Of the 160 acres of the landowner's private property available, approximately 100 acres of the property will be used for the land application of septage, gray water, and grease trap waste.

Figure 1.1: Proposed Land Application Site Location



In accordance with the Administrative Rules of Montana (ARM), the setbacks noted in Table 1.1 must be maintained by the applicant during land application activities.

Table 1.1: Land Application Site Setback Requirements

ARM Reference	Setback Requirements
17.50.809(1)	Pumpings may not be applied to land within 500 feet of any occupied or inhabitable building.
17.50.809(2)	Pumpings may not be applied to land within 150 feet of any state surface water, including ephemeral or intermittent drainages and wetlands.
17.50.809(3)	Pumpings may not be applied to land within 100 feet of any state, federal, county, or city-maintained highway or road.
17.50.809(4)	Pumpings may not be applied to land within 100 feet of a drinking water supply source.
17.50.809(6)	Pumpings may not be applied to land with slopes greater than 6%.
17.50.809(8)	Pumpings may not be applied to land where seasonally high ground water is 6 feet or less below ground surface.

Figure 1.2: Map of application sites, shaded areas are generalized sections of the site that would meet application setback requirements

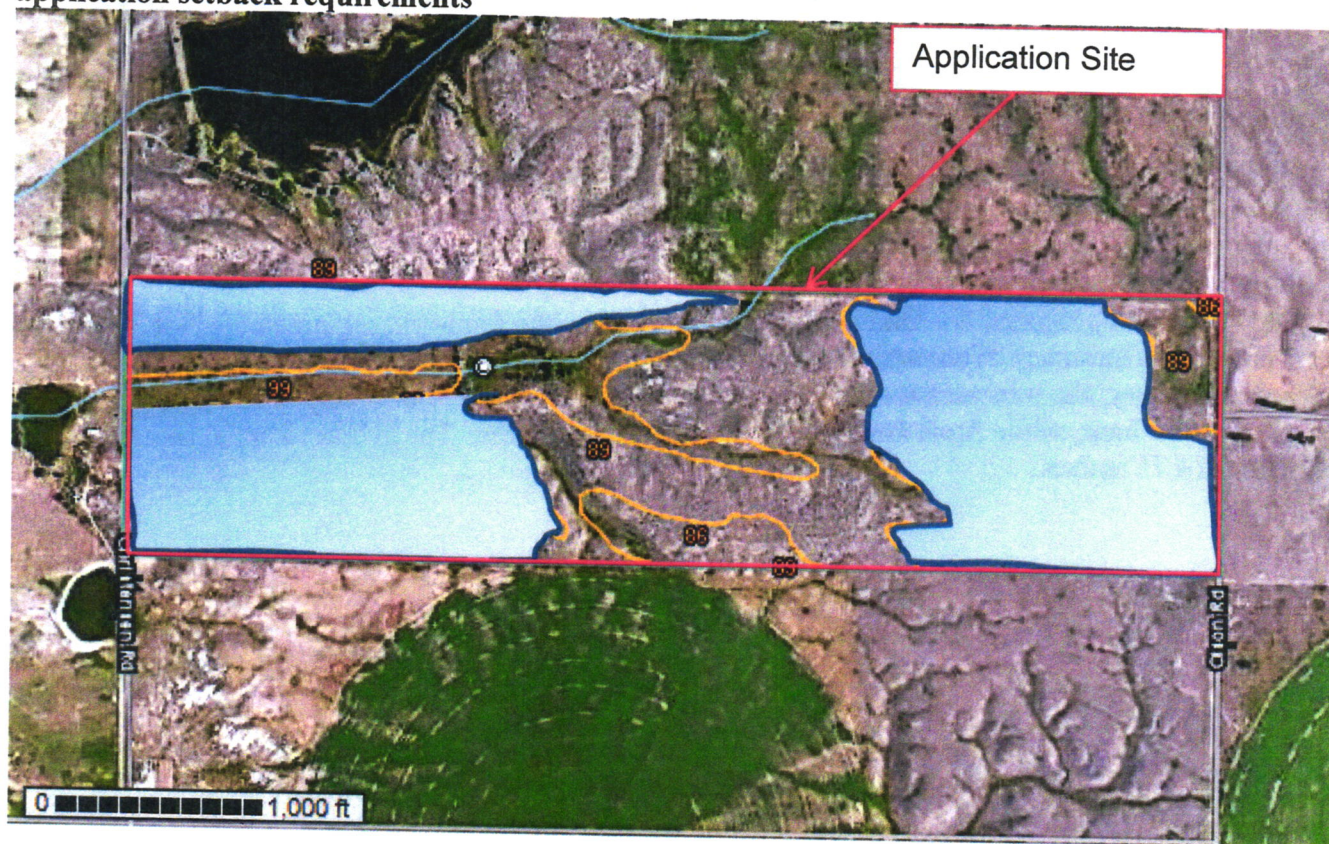
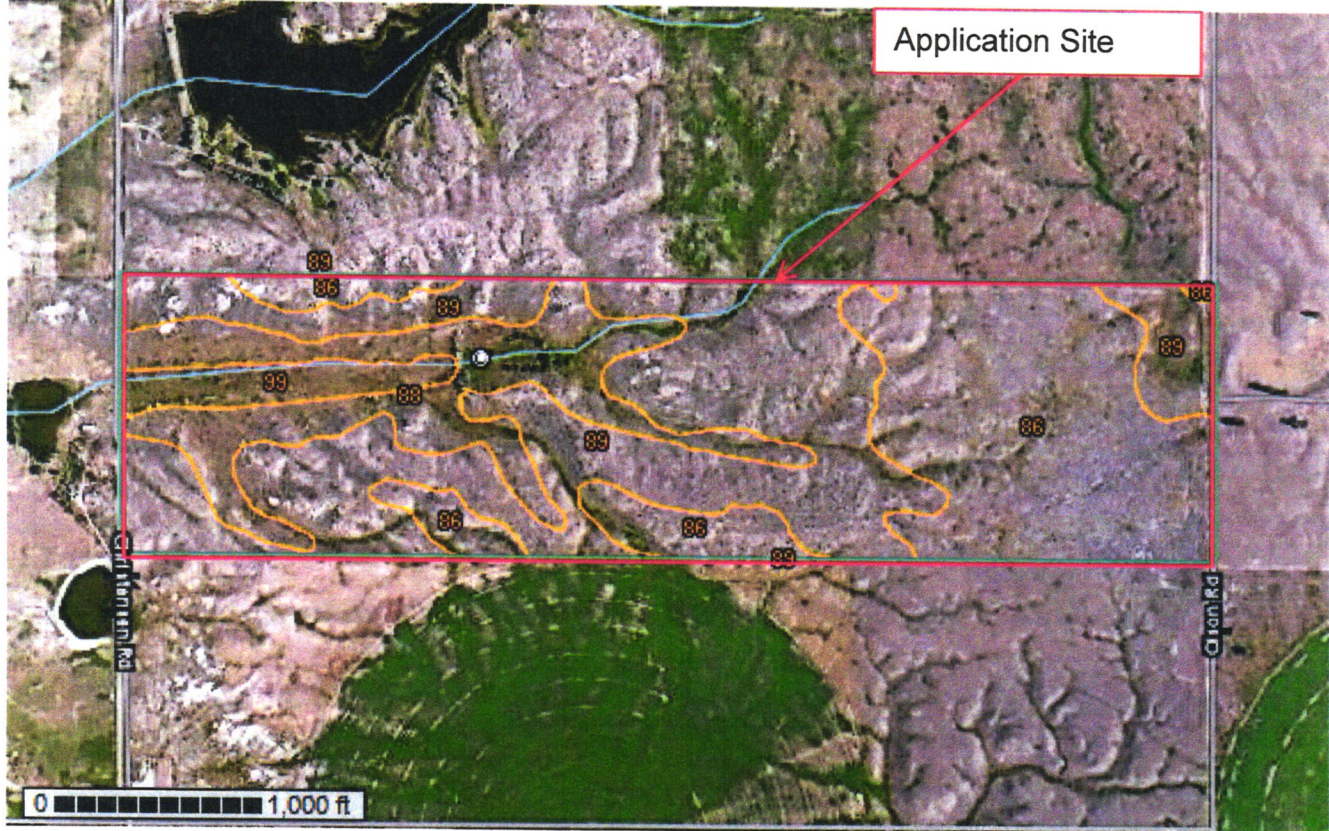


Figure 1.3 shows the proposed site location in reference to the locational features. The acreage proposed for land application will be located greater than 500 feet from any occupied or inhabitable building, greater than 150 feet from state surface water, greater than 100 feet from any state, federal, county, or city-maintained road, and greater than 100 feet from any drinking water supply.

Figure 1.3: Proposed Site Location



(from: USDA-NRCS, Web Soil Survey, Lake Co., Montana)

Site Climate:

The climate in the area proposed for land application is typical of the semi-arid regime in the Hot Springs area. Table 1.2 provides a summary of monthly climate information. The winters in the Hot Springs area are long and moderately snowy; the summers are typically hot and dry. The majority of precipitation falls during the months of May and June, while April and October are the driest months. The average annual precipitation is approximately 14.71 inches.

Table 1.2: Monthly Climate Summary

HOT SPRINGS, MONTANA (244297)													
Period of Record Monthly Climate Summary													
Period of Record: 8/ 2/1969 to 3/31/2013													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	33.8	39.3	48.5	58.4	66.8	75.6	85.1	84.7	73.5	59.2	42.8	33.9	58.5
Average Min. Temperature (F)	17.1	20.7	25.9	31.6	38.6	45.3	49.7	48.8	40.3	31.4	24.5	17.8	32.6
Average Total Precipitation (in.)	1.82	1.20	0.94	0.83	1.62	1.58	1.05	0.85	0.97	0.88	1.44	1.52	14.71
Average Total Snowfall (in.)	10.1	9.5	6.1	0.6	0.0	0.0	0.0	0.0	0.0	0.5	4.7	6.6	38.1
Average Snow Depth (in.)	1	1	1	0	0	0	0	0	0	0	0	1	0
Percent of possible observations for period of record.													
Max. Temp.: 90.3% Min. Temp.: 89.4% Precipitation: 89.4% Snowfall: 65.5% Snow Depth: 52.4%													

Site Operation and Maintenance:

The land application of septage, gray water, and grease trap waste is considered the beneficial use of a waste product when the material is applied in accordance with the laws and rules governing land application. The operational requirements for land application are outlined in Table 1.3.

Table 1.3: Land Application Site Operational Requirements

ARM Reference	Site Restrictions/Requirements
17.50.809(10)	All non-putrescible litter must be removed from the land application site within 6 hours of application.
17.50.809(12)	Pumpings may not be applied at a rate greater than the agronomic rate of the site for crop nitrogen requirement on an annual basis.
17.50.810(1)	Pumpings may not be applied to flooded, frozen, or snow covered ground if the pumpings may enter state waters.
17.50.811(3)	Pumpings may be applied only if the person first performs one of the following vector attraction and pathogen reduction methods: <ul style="list-style-type: none"> • injection below the land surface so no significant amount remains on the land surface within one-hour of injection; • incorporation into the soil surface plow layer within 6 hours of application; • addition of alkali material so that the pH is raised to and remains at 12 or higher for a period of at least 30 minutes; or, • management as required by 17.50.810 when the ground is frozen

The acreage available for land application will be rotated on an annual basis, so that parcels used one year will be inactive the next year. This rotation allows the vegetation or crop of choice to utilize the nitrogen and other nutrients added from the land application process.

Pumpings will be land applied using a dispersive mechanism, consisting of either a spreader bar or a splash plate. The dispersive mechanism applies the waste in a wide, thin, even layer at a beneficial rate. Pumpings will be incorporated into the soil surface plow layer with a tractor and tillage equipment within six-hours of application.

Land application will occur as-needed at a rate not exceeding the Annual Application Rate (AAR) in gallons of septage per acre. For septage, the AAR is calculated based upon the production of a specific crop or grass, as follows:

$$\text{AAR} = \text{Crop Nitrogen Requirement} / 0.0026.$$

In this case, the landowner currently uses the property for the production of pasture grass for livestock grazing. Pasture grass has the minimum nitrogen requirement of 75 pounds/acre. The resulting AAR of 28,846 gallons per acre is equal to approximately 1.06 inches of liquid per acre. For comparison, the average annual precipitation received during the month of July is approximately what would be land applied per acre per year at the proposed site (see Table 1.2). Most septic tanks are between 1,000 and 1,500-gallons each. Depending upon the individual volume of tanks pumped by the applicant, waste from 19-28 septic tanks could be land applied on a per acre per year basis. Using a conservative approach that waste from 24 septic tanks could potentially be land applied per acre, each individual septic tank would contribute approximately 0.044-inches of liquid per acre per year.

SECTION 2.0 – ALTERNATIVES CONSIDERED:

Solid Waste Section Roles and Responsibilities:

The DEQ Solid Waste Section is responsible for ensuring activities proposed under the Solid Waste Management Act, the Septage Disposal Licensure Act, and the Motor Vehicle Disposal & Recycling Act are in compliance with current regulations. A land application site must first be approved by the county in which the site is located before the request for licensure is submitted to the Solid Waste Section for review and approval. Each licensee is responsible for following the Administrative Rules of Montana for Cesspool, Septic Tank, and Privy Cleaners and other restrictions and requirements put in place by the county in which the land application site is located.

The following provides a description of reasonable alternatives whenever alternatives are reasonably available and prudent to consider:

A decision by DEQ is triggered when the applicant upholds the request for licensure of the proposed activity at the proposed location. The applicants, however, may at any time choose to withdraw the application by exercising the “no action” alternative. If the ‘no-action’ alternative is chosen, the applicant could seek to locate a land application site elsewhere.

Alternative A: The “no action alternative”. Under this alternative, a final decision by DEQ is not required because the applicant will have chosen to withdraw the application for licensure of the land application site. By withdrawing the application from consideration by DEQ, the applicant could seek an alternative site for the proposal. Although it is plausible, the applicant’s selection of this alternative is unlikely. Rather, the applicant will likely continue the request for licensure of the proposed activity at the proposed site.

In the absence of the applicant’s selection of the ‘no-action’ alternative, and prior to the DEQ’s final decision, two other possible alternatives were considered during the preparation of this EA.

Alternative B: Under this alternative, DEQ denies the new disposal site application because the applicant failed to provide information needed to address any deficiencies identified during the review of the application and/or the public participation phase. The decision to deny the application is unlikely because DEQ has found the application complete for the purpose of the environmental review. Deficiencies could be due to an unforeseen shortfall in meeting site setback or locational requirements, licensing criteria, regulatory criteria or legal issues, or the ability of the applicant to mitigate a potentially substantial impact to human health or the environment. If denied, the applicant could locate, investigate, and apply for a license at another site suitable for the proposed activity.

Alternative C: Under this alternative, DEQ approves the use of the land application site as proposed by the applicant. Several factors support the viability of this option:

1. This site meets all of the requirements of the Septic Disposal Licensure Act. The site soils, slope, depth to ground water, approvals, and setback requirements have been met;
2. The site is fenced, rural and private property; and,
3. All activities will be performed in accordance with an approved Operation and Maintenance Plan (O&M) and verified by periodic inspections by DEQ and/or Lake County Environmental Health Department personnel.

In consideration of these alternatives, the potential environmental impacts of Alternative C were evaluated for the proposed project based on the information provided and DEQ’s research based on published data for the area surrounding the proposed site. The results of DEQ’s evaluation of potential environmental impacts related to the proposed facility are summarized in Section 3.0.

Evaluation of mitigation, stipulations, and other controls enforceable by the agency or another government agency:

The proposed land application site and O&M plan must meet the requirements of the Montana Septage Disposal – Licensure Law, Air and Water Quality Acts, and other Montana environmental laws and regulations as well as county ordinances. Obtaining a license from DEQ and remaining in compliance with the regulations should minimize any adverse environmental effects. The licensee must also operate the site under the guidelines of the approved O&M Plan. The licensee's failure to operate within the constraints of the approved O&M Plan will result in citations by DEQ. Continued or persistent failure to abide by the regulations and the approved O&M Plan will result in enforcement action, which may include penalties and revocation of the site approval.

Recommendation:

DEQ is requesting input from the public regarding this proposal to identify environmental problems or significant impacts that have not been addressed in the EA. The DEQ's recommendation is to distribute the EA to adjacent landowners and interested persons to satisfy the public notification and participation requirements of MEPA.

Findings:

DEQ finds that there would be little or no impacts to the physical and human environment if the septage, gray water, and grease trap waste are treated in a manner consistent with the rules and regulations. Therefore, an EA is the appropriate level of analysis and an Environmental Impact Statement is not needed. This treatment option is a beneficial reuse of a waste product.

Other groups or agencies contacted or which may have over-lapping jurisdiction:

Lake County Health Department

Individuals or groups contributing to this EA:

Manford Tempero of M-T Septic

Montana Natural Heritage Program

Montana Historical Society State Historic Preservation Office

Natural Resource Information System

References:

Western Regional Climate Center, 2215 Raggio Parkway, Reno NV 89512-1095

Montana Tech of the University of Montana, 2012, Montana Bureau of Mines and Geology, Groundwater Information Center, <http://mbmggwic.mtech.edu/>

United States Department of Agriculture, 2012, Natural Resources Conservation Service, Web Soil Survey, <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>

EA prepared by:

John Collins- DEQ Permitting and Compliance Division, Waste and Underground Tank Management Bureau, Solid Waste Section

Date: June 12, 2014

SECTION 3.0 - EVALUATION OF POTENTIAL EFFECTS

This section evaluates the potential environmental effects that may occur on the physical and human environment if the land application site is approved. Tables 3.1 and 3.2 identify the physical and human elements that may be affected by licensure of the proposed site. Each table is followed by a discussion of the potential impacts to the resources that might be affected by the proposal. Generally, only those resources potentially affected by the proposal are discussed. If there is no effect on a resource, it may not be mentioned in the appendix.

Direct and indirect impacts are those effects that occur in or near the proposed project area and might extend over time. Often, the distinction between direct and indirect effects is difficult to define, thus in the following discussion, impact or effect means both types of effects.

Cumulative impacts are restricted to the net effects of the proposed project because no other known projects are proposed in this area. Secondary impacts are induced by a direct impact and occur at a later time or distance from the triggering action. No secondary impacts are expected.

TABLE 3.1 - IMPACTS TO THE PHYSICAL ENVIRONMENT

<u>PHYSICAL ENVIRONMENT</u>	Major	Moderate	Minor	None	Unknown	Attached
1. SITE TOPOGRAPHY, GEOLOGY & SOIL QUALITY, STABILITY & MOISTURE:			✓			✓
2. WATER QUALITY, QUANTITY & DISTRIBUTION:				✓		✓
3. AIR QUALITY:				✓		
4. DEMANDS ON ENVIRONMENTAL RESOURCES OR LAND, WATER, AIR OR ENERGY:				✓		
5. TERRESTRIAL, AVIAN, AND AQUATIC LIFE AND HABITATS:			✓			✓
6. VEGETATION COVER, QUANTITY & QUALITY:			✓			✓
7. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:			✓			✓
8. HISTORICAL AND ARCHAEOLOGICAL SITE:				✓		✓
9. AESTHETICS:				✓		✓
10. AGRICULTURE:			✓			✓

CUMULATIVE AND SECONDARY IMPACTS — The cumulative effects of the proposed land application site are minor. The production rates for the grasses grown at this site will increase from the addition of nutrients and other organic matter from the materials. Because the site is actively used for grazing, the proposed activity is consistent with the day to day activities of farming and ranching and will not cause a change in the overall aesthetics or agricultural use of properties in the area. There are no recognized secondary effects.

TABLE 3.2 - IMPACTS TO THE HUMAN ENVIRONMENT

<u>HUMAN ENVIRONMENT</u>	Major	Moderate	Minor	None	Unknown	Attached
1. SOCIAL STRUCTURES & MORES:				✓		
2. CULTURAL UNIQUENESS & DIVERSITY:				✓		
3. DENSITY & DISTRIBUTION OR POPULATION & HOUSING:				✓		
4. HUMAN HEALTH & SAFETY:				✓		✓
5. COMMUNITY & PERSONAL INCOME:				✓		
6. QUANTITY & DISTRIBUTION OF EMPLOYMENT:				✓		
7. LOCAL & STATE TAX BASE REVENUES:				✓		
8. DEMAND FOR GOVERNMENT SERVICES:				✓		✓
9. INDUSTRIAL, COMMERCIAL, & AGRICULTURAL ACTIVITIES & PRODUCTION:				✓		
10. ACCESS TO & QUALITY OF RECREATIONAL & WILDERNESS ACTIVITIES:				✓		
11. LOCALLY ADOPTED ENVIRONMENTAL PLANS & GOALS:				✓		
12. TRANSPORTATION:				✓		✓

CUMULATIVE AND SECONDARY IMPACTS — There are no cumulative effects recognized from the applicant's use of the proposed land application site. The proposed site is located on private property that is actively farmed. There are no recognized secondary effects.

SECTION 3.1 - POTENTIAL IMPACTS OF THE PROPOSED LAND APPLICATION SITE ON THE PHYSICAL ENVIRONMENT (See Table 3.1)

1.0 Site Topography, Geology, and Soil Quality – Stability & Moisture

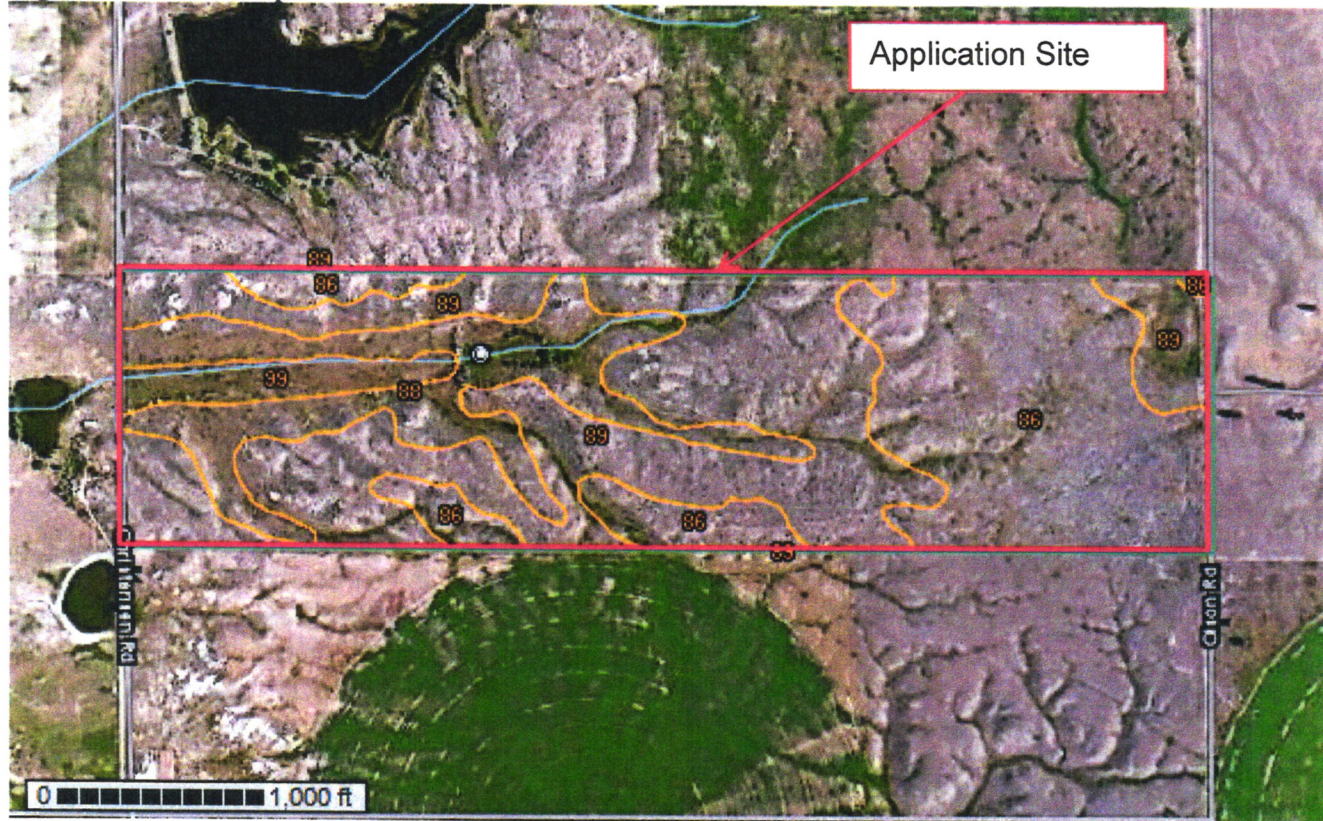
The site is located at an elevation of approximately 2850 feet and is found on the east side of the Little Bitterroot Valley. The surrounding topography includes timbered and non-timbered foothills to the north, west and south. Surface water in the area includes Hot Springs Creek, a perennial stream flowing through the Town of Hot Springs from west to east towards the Little Bitterroot River.

The proposed land application site is located on the southeast end of the Little Bitterroot Valley in northwestern Montana. The valley is a structural basin with deep, well-developed Tertiary alluvium consisting of sands, gravels and silts that are covered by a thick layer of sediments deposited by Glacial Lake Missoula. The valley is bordered by mountains composed of Precambrian rocks of the Lower Belt formations (Alt, 1986). The eastern margin of the Little Bitterroot Valley has shallow fluvial deposits covering glacial-lacustrine silts and clays from Glacial Lake Missoula. The sediments rest on bedrock composed of argillites of the Lower Belt formations which rise up to form the Cabinet Mountains. The bedrock has been highly fractured and faulted as a result of tectonic and volcanic activity. A large dioritic dike cuts through the bedrock and disappears in the sediments south of the town of Hot Springs, which is approximately three miles to the west of the site. The dike runs north-south from the Camus Prairie; it has not been mapped in the bedrock north of the Town of Hot Springs. A series of northwest to southeast trending thrust faults cut the region.

The topsoil layers are sediments consisting of fine sands, silts and clays deposited during the time that Glacial Lake Missoula covered much of the region. The natural soils at the proposed site consist predominantly of the Kerr Dam silt loam (Figure 3.1). These soils occur on slopes between 0 to 2 percent, are well drained and have a depth to water greater than 80 inches. The secondary soil type is the Kerddam-Vincom silt loams. These soils occur on slopes between 15 to 30 percent, are well drained and have a depth to water greater than 80 inches. The minor soil type at the application site is Kerddam-Vincom silt loams. These soils occur on slopes between 6 to 15 percent, are well drained and have a depth to water greater than 80 inches. Key soil properties are summarized in Table 3.3 and a map of the soil types are shown on Figure 3.1.

The site is suited for land application of septage because the soils at the site allow for the storage of nutrients, organic matter, and moisture until it can be used by the vegetation grown at the site.

Figure 3.1: Soils Map



(from: USDA-NRCS, Web Soil Survey, Lake Co., Montana)

Table 3.3: Summary of Soil Properties

Soil Type	Map Key	Depth profile	Drainage	Permeability	Available Water Capacity	Erosion Hazard	Soil Compaction Resistance
Kerr Dam silt loam , 0 to 2 percent slopes	86	0 to 60 inches: Silt loam	Well Drained	Moderately High-High	High	Slight	Low Resistance
Kerrdam-Vincom silt loams 15 to 30 percent slopes	89	0 to 60 inches: Silt loam	Well Drained	Moderately High-High	High	Slight	Low Resistance
Kerrdam-Vincom silt loams 15 to 30 percent slopes	88	0 to 60 inches: Silt loam	Well Drained	Moderately High-High	High	Slight	Low Resistance

2.0 Water Quality, Quantity, and Distribution

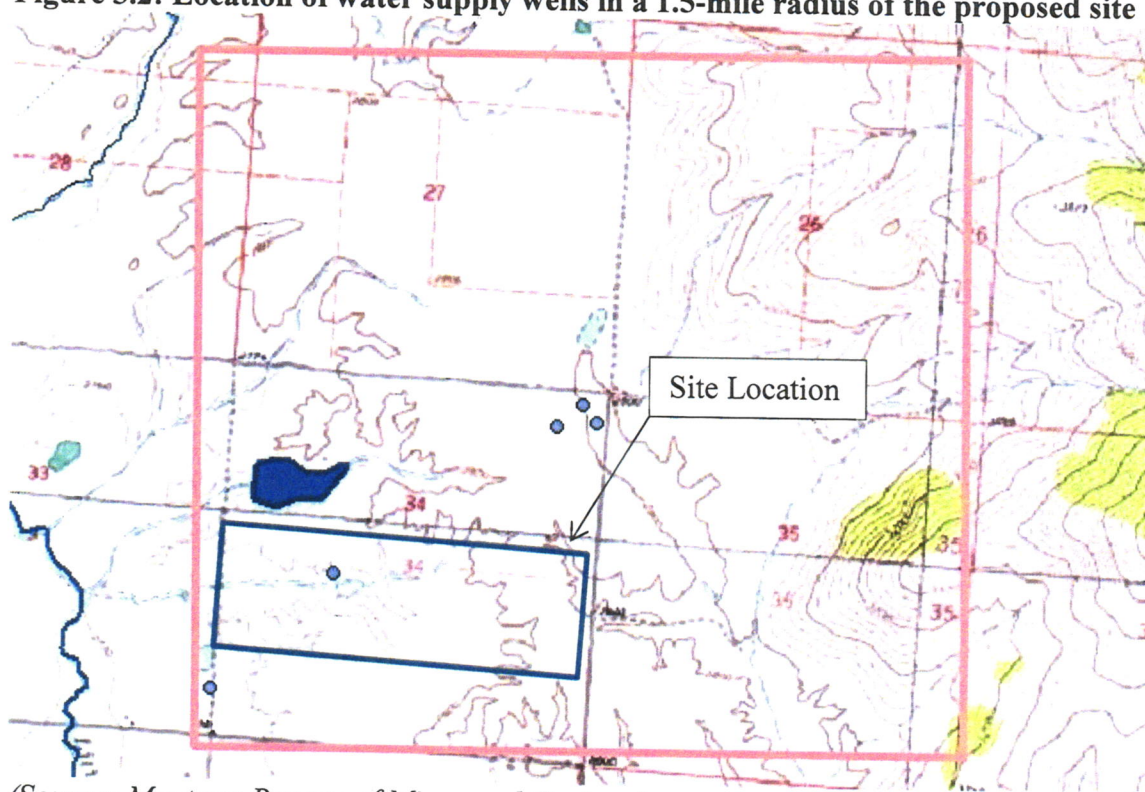
Surface Water

The proposed land application site is located approximately 0.75 miles north of the Little Bitterroot River. An intermittent drainage is mapped on the United States Geological Survey (USGS) Markle Pass 1:24,000 quadrangle, which roughly bisects the proposed application site. The land application activities will adhere to ARM 17.50.809(2); pumpings will not be applied to land within 150 feet of any state surface water, including ephemeral or intermittent drainages and wetlands. The intermittent channel drains in a westerly direction to the Little Bitterroot River. Surface water flows may occur in this drainage only during periods of heavy rainfall or rapid snowmelt. There are no natural springs known within the immediate vicinity of the proposed land application site.

Groundwater

The area has several flowing artesian hotsprings which are located north of the town of Hot Springs. The heat source is believed to be a localized igneous body at a depth of 600 feet and is directly related to a northeast trending valley bounding fault (Crosby et al. 1974). A 40-foot thick clay silt overburden separates the bedrock from the additional valley sediments. The secondary porosity (fracture) flow recharging the aquifers supplying the wells in the area are separate from the hot water systems supplying the hotsprings because the wells in the area produce cold water. However, the hotsprings do show that the fractures in this area are capable of moving significant amounts of water through deep bedrock fracture systems.

Figure 3.2: Location of water supply wells in a 1.5-mile radius of the proposed site



(Source: Montana Bureau of Mines and Geology)

Nearby Groundwater Supply Wells

There are very few water supply wells located near the proposed application site. Based on a review of the Montana Bureau of Mines and Geology (MBMG) database of existing wells, there are four water supply wells within 1.5-mile radius of the facility (Figure 3.2). There is one well located on the proposed application site, which was formerly used for irrigation and stock water. At the time of its installation in 1913, it was an artesian well which was drilled to an estimated 250 to 300 feet. According to the current owner, it flowed if

left unplugged, until water levels in the area began to decline; now, the well no longer flows. The nearest water supply wells include a private water supply well and irrigation well located on the adjacent property to the south. According to the MBMG database, the domestic well is completed to a total depth of 220 feet below ground surface in sand and gravel aquifers of the Lone Pine aquifer below the upper clays and silts. The static water level was not recorded for this well. The water supply wells within a three-mile radius of the facility are typically completed from 97 to 339 feet below ground surface and typically yield between 8 and up to 600 gallons per minute (Table 3.4).

Table 3.4: Summary of Nearby Wells

GWIC Id #	Twn	Rng	Sec	Q Sec	Type	Total depth ¹	Static water level ²	Yield ³	Date	Use
77148	22N	23W	28	ABCC	WELL	339	28	30	12/11/1967	STOCK
77146	22N	23W	28	AC	WELL				1/1/1925	DOM
77147	22N	23W	28	ADCC	WELL	243		250	8/1/1980	DOM
77149	22N	23W	28	CA	WELL	200		275	2/4/1972	IRR
6227	22N	23W	28	CBBB	WELL	230		300	4/11/1958	IRR
703348	22N	23W	28	CBD	WELL	230		96	1/1/1915	IRR
77151	22N	23W	28	CBDB	WELL	230			4/11/1958	DOM
77153	22N	23W	28	CCAA	WELL	234			10/28/1919	DOM
77152	22N	23W	28	CCAC	WELL	234		275	3/24/1933	DOM
77169	22N	23W	33		WELL				1/1/1930	IRR
77170	22N	23W	33	AC	WELL	250	250	50	1/1/1944	IRR
77172	22N	23W	33	BAA	WELL	250		100	1/1/1944	IRR
77171	22N	23W	33	BAA	WELL	250		100	1/1/1944	IRR
703351	22N	23W	33	BAB	WELL	240			4/1/1974	IRR
77174	22N	23W	33	BAB	WELL	320	32	25	2/26/1974	DOM
77173	22N	23W	33	BABA	WELL	258		30	7/26/1968	DOM
6246	22N	23W	33	BABB	WELL	286		400		IRR
77175	22N	23W	33	BABB	WELL	286		600	9/25/1973	IRR
77176	22N	23W	33	BC	WELL	220		100	1/1/1920	DOM
77177	22N	23W	33	BDAB	WELL	250	250	50	1/1/1944	IRR
165920	22N	23W	33	CBC	WELL	298.9	29.96	200	8/13/1997	DOM
77178	22N	23W	33	CD	WELL				1/2/1961	DOM
77179	22N	23W	33	CDB	WELL				1/2/1961	DOM
77181	22N	23W	33	DAD	WELL			40	1/1/1914	DOM
77180	22N	23W	33	DADB	WELL	242		75	1/1/1914	DOM
703352	22N	23W	33	DDA	WELL					UNUSED
77182	22N	23W	33	DDAD	WELL		250		1/1/1912	IRR
703353	22N	23W	33	DDC	WELL	248				DOM
139128	22N	23W	33	DDCC	WELL		-18.3			
77183	22N	23W	33	DDCC	WELL		245		1/1/1920	DOMESTIC
6247	22N	23W	33	DDDA	WELL	270		200		IRR
77184	22N	23W	34	AA	WELL	170	170	8	1/1/1944	STOCK
703354	22N	23W	34	AAA	WELL	97			8/1/1975	STOCK
151976	22N	23W	34	AAA	WELL	97			1/1/1974	STOCK
77185	22N	23W	34	CAB	WELL			20	1/1/1913	IRR

(Source: Montana Bureau of Mines and Geology, Ground Water Information Center)

¹The total depth column is the depth drilled, which may be deeper than the bottom of the well as completed.

²Static water level is the level of water measured in the well at the time of installation.

³Yield is the amount of water the well is expected to be capable of producing as reported by the well driller.

Total depth, depth water enters, and static water levels are reported in feet below ground surface. Yield is reported in gallons per minute. All data is based upon driller's logs and may not be reported for every well.

4.0 Terrestrial, Avian, and Aquatic Life and Habitats

There is a shallow pond located on the proposed site that may contain continuous active aquatic systems within the boundary of the proposed site. However it is unlikely that there would be any significant impact to aquatic life or habitat because land application activities are prohibited and would not occur within 150 feet of this pond. An intensive survey was not performed to verify the presence of, or impact to, terrestrial or avian species within the land application site, because the site is actively used for animal grazing. However, there is adequate acreage of similar habitat available in the vicinity of the site to accommodate any species that may be forced to relocate. Consequently, any terrestrial or avian species will likely relocate to the adjacent locations.

5.0 Vegetation Cover, Quantity and Quality

The quantity and quality of the pasture grass will be enhanced by the proposed land application activity. The land application of septage, gray water, and grease trap waste at this site will provide additional nutrients, organic matter, moisture, and improve the soil tilth for increased production of pasture grass for continued stock grazing.

6.0 Unique, Endangered, Fragile, or Limited Environmental Resources

A search of the Montana Natural Heritage Program indicated the Pileated Woodpecker, Cassin's Finch, Clark's Nutcracker, Long-billed Curlew, and Brewer's Sparrow are listed as species of concern. Designation as a species of concern is not a statutory or regulatory classification. Instead, these designations provide a basis for resource managers and decision-makers to make proactive decisions regarding species conservation. An intensive site survey was not conducted to verify the presence of, or impact to, sensitive, unique, endangered, or fragile species within or adjacent to the proposed land application site because the site is currently used for the grazing of animals. Therefore, due to the limited development and human population adjacent to the proposed site, there is adequate acreage of similar habitat available in the vicinity to accommodate any species that may be forced to relocate.

7.0 Historical and Archaeological Site

A cultural resource file search was conducted for the proposed location that indicated there have been no previously recorded sites within the area. The State Historic Preservation Office feels there is a low likelihood cultural properties will be impacted and therefore a cultural resource inventory is unwarranted at this time. However, should cultural materials be inadvertently discovered during proposed operations at this site, the State Historic Preservation Office will be notified immediately.

8.0 Aesthetics

This site is on active farming land and is not located on a prominent topographical feature. It is not visible from a highly populated area. The application of septage is similar to the day-to-day activities of farming and ranching already occurring at the site and will not cause a change in the aesthetics of the area.

9.0 Agriculture

Agricultural activities in the area consist primarily of farming and grazing lands. Pumpings will be land applied at a rate not to exceed 28,846 gallons per acre per year. This will ensure that over application does not occur and that the pasture grass grown on the site can use the nitrogen being added by the land application activities. Land application sites will be rotated on an annual basis so that the pasture grass will utilize the nitrogen and other nutrients contained in the waste. The impacts on overall agricultural production in the area due to the proposed land application of septage, gray water, and grease trap waste at this site will be minor.

SECTION 3.2 - POTENTIAL IMPACTS OF THE PROPOSED LAND APPLICATION SITE ON THE HUMAN ENVIRONMENT (See Table 3.2)

10.0 Human Health & Safety

The septage, gray water, and grease trap waste will be land applied at the site on an as needed basis. Pumpings will be land applied using a dispersive mechanism, consisting of either a spreader bar or a splash plate. The dispersive mechanism applies the waste in a wide, thin, even layer at a beneficial rate. Pumpings will be incorporated into the soil surface plow layer with a tractor and tillage equipment within six-hours of application. There are no additional health or safety concerns when the site is operated in accordance with the Septage Disposal regulations.

11.0 Demand for Government Services

The Lake County Environmental Health Department and DEQ Solid Waste Section will conduct periodic inspections at the site. No additional government services will be required.

12.0 Transportation

The land application site will be accessed off of Christensen Road. Christensen Road currently supports traffic to rural homes, farms and ranches, including heavy equipment associated with the current agricultural activities in the area. The site will be used on an as-needed basis by the applicant and will not cause a significant increase in traffic on Christensen Road.